



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,698	10/07/2003	W. Richard Brown	37505.0278	6163

33751 7590 11/06/2006

GREATBATCH LTD  
9645 WEHRLE DRIVE  
CLARENCE, NY 14031

EXAMINER

WEINER, LAURA S

ART UNIT	PAPER NUMBER
----------	--------------

1745

DATE MAILED: 11/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/680,698

Applicant(s)

BROWN ET AL.

Examiner

Laura S. Weiner

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9, 16-19, 27-32 and 38-42 is/are pending in the application.
- 4a) Of the above claim(s) 43-55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-8, 16, 17, 19, 27, 28, 30-32 and 39 is/are rejected.
- 7) ☐ Claim(s) 3, 9, 18, 29, 38 and 40-42 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 10-7-03.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Newly submitted claims 43-55 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

The newly added claims are unrelated to the original claims. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions, the inventions are unrelated because they are not disclosed as capable of use together and have different effects such that newly added claims 43-55 require a cathode comprising a titanium current collector provided with an outer layer of titanium oxide contacted by fluorinated carbon. The original claims do not require the contacting of a fluorinated carbon.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 43-55 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1745

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 4-8, 16-17, 19, 27-28, 30-32, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Disselbeck et al. (5,670,278) or Frysz et al. (5,114,810) in view of Liang et al. (4,391,729).

Disselbeck et al. teaches in column 2, lines 41-61, that the present invention provides a support for electrodes of primary or secondary electric cells where said support comprises an open-mesh, three dimensional network structure composed of plastics threads coated with one or more efficiently conducting, thin metal coats where at least the outer metal coat of the plastics threads consists of a valve metal. Titanium is particularly preferred valve metal. Disselbeck et al. teaches in column 6, lines 64-67, that preferably the valve metal layer, for example the titanium layer is surface-passivated. Disselbeck et al. teaches in column 10, lines 6-10, that the passivation of the valve metal layer is preferably effected by electrolytic oxidation and if the active material support is incorporated in a positive plate, can be effected simultaneously with the forming thereof [*forming a titanium oxide layer*].

Frysz et al. teaches in column 6, lines 47-52, that a lithium metal oxide bronze cell compatible to use the cathode current collector material is referenced in Liang et al. (4,391,729), the disclosure of which is hereby incorporated by reference. Frysz et al. teaches in column 7, Example I, that evaluation of corrosion behavior of 304 low carbon stainless steel, Grade 1 titanium and the cathode current collector material of the present invention in lithium silver/vanadium oxide cells were conducted. The titanium

Art Unit: 1745

group was further subdivided into 3 groups. The cathode plates of one group were weighed and then humidified at 25 degrees C in a humidity chamber to generate a more protective TiO<sub>2</sub> passivation layer. Frysz et al. teaches in column 7, Example II, to further evaluate the response of the cathode current collector materials of Example I at longer elevated temperature open circuit exposure, 7 mm thick case negative lithium silver vanadium oxide cells were selected for 3 months storage. Three groups were sorted according to the cathode material used were three Grade 1 titanium cells: expanded titanium (humidified screen), machined titanium (humidified plate) and machined titanium (as received).

Disselbeck and Frysz et al. teaches the claimed invention except does not specifically teach a separator is positioned between the anode and the cathode.

Liang et al. teaches in column 6, Example 8, a cell comprising a lithium anode, a composite cathode, an electrolyte and a separator provided and placed between the anode and the cathode. Liang et al. teaches in column 5, example 2, that copper vanadium oxide was mixed with graphite powder and a Teflon binder. Liang et al. teaches in column 3, that when the mechanical structure or configuration of the cell require, a separator can be employed to provide physical separation between the anode and the cathode current collectors. The separator is of electrically insulative material to prevent an internal electrical short circuit in the cell. The form of the separator typically is a sheet which is placed between the anode and the cathode of the cell in a manner preventing physical contact between the anode and the cathode, and such contact also is prevented when the combination is rolled or otherwise formed into a cylindrical

Art Unit: 1745

configuration.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to put a separator between the anode and cathodes of Disselbeck et al. or Frysz et al. because Liang et al. teaches that when the mechanical structure or configuration of the cell require, a separator can be employed to provide physical separation between the anode and the cathode current collectors. The separator is of electrically insulative material to prevent an internal electrical short circuit in the cell.

***Allowable Subject Matter***

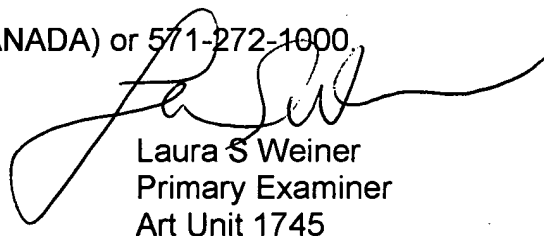
4. Claims 3, 9, 18, 29, 38, 40-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S. Weiner whose telephone number is 571-272-1294. The examiner can normally be reached on M-F (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Laura S Weiner  
Primary Examiner  
Art Unit 1745

November 2, 2006